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Twice Upon a Time

Judi Harris
College of William and Mary

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Logo LinX

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"Anytwo for elevennis?"

This sentence has suffered Logo inflation. Last year, it might have read,

"Anyone for tennis?"

Next year, if things keep going up, it may read,

"Anythree for twelvenis?"

Now that holiday gift bills are starting to arrive, perhaps inflation is the last thing that you want to remember. Yet it can inspire enjoyable classroom exploits with syllabication, sequencing, and homophones.

Rising to the Occasion

Once Logo inflation hits, "I ate a tenderloin with my fork" becomes "I nined an elevenderloin with my fivek." "Fourscore and seven years ago, our forefathers brought forth" reads, instead: "Fivescore and eight years ago, our fivefathers brought fifth." And so on and so fifth.

Danish comedian Victor Borge first introduced the notion of inflationary words in an effort to match language to economic trends. He reminds us that English "is your language; I'm just trying to use it." Borge suggests that we inflate words as a proactive measure, since inflation (like taxation) is inevitable.

Getting a Rise Out of Them

This presents an interesting Logo challenge. The sound of the first step toward solution is a homophonic one. How many different ways are there to spell each of the number words, 1 through 10? Your students will probably be glad to list the possibilities.

one	two	three	four	five ....
won	to		for	
	too		fore	
	tu			

Now, form a list from these homonyms, output by a procedure called PREINFLATION.

```
TO PREINFLATION
OUTPUT [ONE WON JUAN TWO TO TOO TU
   THREE FOUR FOR FORE FIVE SIX
   SICKS SICS SEVEN EIGHT ATE AIT
   NINE NEIN TEN]
END
```

An accompanying list of the same length can output inflated "values" for each of the words, in order.

```
TO POSTINFLATION
OUTPUT [TWO TWO TWO THREE THREE
   THREE THREE FOUR FIVE FIVE FIVE
   SIX SEVEN SEVEN SEVEN EIGHT NINE
   NINE NINE TEN TEN ELEVEN]
END
```

Inflated Ergo

An INFLATE command can be written to output corresponding inflated list elements.

```
TO INFLATE :WORD.PART
IF MEMBERP :WORD.PART PREINFLATION
   [OUTPUT ITEM (ELEMENT
         :WORD.PART PREINFLATION)
   POSTINFLATION][OUTPUT:WORD.PART]
 END
```

INFLATE uses an adaptation of Alison Birch's ELEMENT subprocedure, which is the opposite of the primitive ITEM.

```
TO ELEMENT :ITEM :OBJECT
IF :ITEM = FIRST :OBJECT [OUTPUT 1]
OUTPUT 1 + ELEMENT :ITEM
   BUTFIRST :OBJECT
END
```

The superprocedure INFLATED uses these four subprocedures to output *more expensive* words.

```
TO INFLATED :LIST
IF EMPTYP :LIST [OUTPUT "]
OUTPUT WORD ( INFLATE FIRST :LIST )
   INFLATED BUTFIRST :LIST
END
```

Students must supply syllabicated words as input to INFLATE. For example, if a user types

```
PRINT INFLATED [WON DER FUL]
```

the computer will return:

```
TWODERFUL .
```

```
PRINT INFLATED [BE FORE]
```

yields

```
BEFIVE .
```

PREINFLATION and POSTINFLATION resultant lists can, of course, be adjusted to predict inflation at any rate. Who knows? Don Juan may someday be Don Eight. Why not adjust the fable now?

LogoLinX -- continued

Literary Lifts

Inflated words make twoderful stories. Here is an uninflated tale that Mr. Borge supplied. Your students may want to translanine it.

> *Once* upon a time in sunny *California*, there lived a young man named Bob. He was a *second lieutenant* in the U.S. Air *Forces*. Bob had been fond of Anna, his half sister, ever since she saw the light of day for the *first* time. They were both proud of the fact that *one* of their *forefathers* had been among the *creators* of the U.S. *Constitution*. They were dining on the terrace.
>
> "Anna," he said, as he took a bite of a *marinated* herring, "you look *wonderful tonight*. You never looked that lovely *before*. Anna looked *wonderful*, despite the illness from which she had not *recuperated*.
>
> "Yes," repeated Bob, "You look *wonderful* tonight, but you have *two* of the saddest eyes I have ever seen."
>
> The table was tastefully *decorated* with Anna's favorite flowers, *tulips*. They were now talking about Anna's husband, from whom she was *separated*, while on the radio, an Irish *tenor* sang "Tea for *Two*."

Elevated Elegies

Let us finish the tale in inflated terms.

> It was midnight. A clock in the distance struck thirteen. Suddenly, there in the moonlight, stood her husband, Don Two, obviously intoxicninedcd.
>
> "Anna!" he blurted, "Fivegive me! I am only young twice, and you are my two and only!"
>
> Bob jumped to his feet. "Get out of here, you three-faced triple-crosser!"
>
> But Anna warned, "Watch out, Bob! He is an officer!"
>
> "Yes, he is two, but I am two, three!"

What inflated stories will your students crenine, given these interdisciplinary tools? Until next time, dear LinXers, three-de-loo!

References

Borge, V. (Performer). (1986). *On stage with audience favorites* [videotape]. New York: Gurtman & Murtha Associates.

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Judi Harris, 621F Madison Avenue
Charlottesville, VA 22903

Logo Connections

Leaping to Conclusions with Spreadsheets

by Glen Bull and Gina Bull

This column is about connections between Logo and other kinds of hardware, software, and concepts. Ordinarily we might discuss how data from Logo can be transferred to a spreadsheet, or vice versa. However, this month we would like to discuss how similar concepts can find expression in both Logo and spreadsheets. We have chosen spreadsheets as our basis for comparison because of the (dare we say it?) wide*spread* familiarity with them, but other software such as Hypercard would serve as well.

If a thing is worth doing, it is worth doing poorly.

Learning new things is often only possible through a series of successive approximations. Rarely is a skill perfected the first try. Thousands of tennis buffs enjoy their inexpert weekend games just as much as Bjorn Borg or Jimmy Connors. Millions enjoy chess matches with their friends even though they have not achieved even the lowest national ranking. There are two important ideas here. Often activities worth doing can be enjoyed even if done inexpertly. And, more importantly, most experts begin as novices.

This rule also applies to problem solving activities. If it is not possible to solve a problem completely, solving part of the problem may be a good way to begin. Recently we met a teacher who wanted to calculate the ages of children in her classroom. She had just acquired a spreadsheet and wanted to use it to create a template to do the calculations. The initial format of the spreadsheet that she set up looked like this:

	Date of Birth			Current Age		
	Year	Month	Day	Years	Months	Days
John	1979	1	17	—	—	—
Sally	1978	10	6	—	—	—
Sam	1979	3	17	—	—	—

She wanted to know how to create a formula to perform the computations. Although the problem looks easy, it is a nontrivial task for a novice. To see why, let's look at the calculations involved for John and Sam. John was born on January 17, 1979. Let's assume that today's date is February 20, 1989. The calculation would look like this:

	Year	Mo	Day
Current Date:	1989	2	20
Date of Birth:	1979	1	17
	—	—	—
	10	1	3

Through a matter of three separate subtractions we would determine that John is 10 years, 1 month, and 3 days old. Sam's case is a bit more complicated. Sam was born in March: